

# ADDITIONS TO THE FLORA OF THE RECHERCHE ARCHIPELAGO

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## ABSTRACT

Flora Lists for six previously unstudied islands of the Recherche Archipelago are presented. A flora list for Wilson Island, where numerous new records were obtained is given. Six new species (*Chamaescilla corymbosa*, *Wilsoniabackhousei*, *Wilsonia humilis*, *Calandrinia corrigioloides*, \**Corrigola littoralis* and \**Monadenia bracteata*) were added to the flora of the Archipelago.

## INTRODUCTION

In May 1991 Australian Geographic undertook an expedition to the Recherche Archipelago. The author was fortunate to be invited to accompany the expedition to study the flora of the islands. Results of this study are presented here, to provide baseline data on a number of previously unstudied islands.

## PREVIOUS STUDIES

The first botanical collections from the Recherche were made by the French in 1792, followed by the English in 1802. However, the first systematic attempt to survey the flora of the Archipelago was undertaken by the Australian Geographical Society in November 1950. They were able to collect extensively on 20 islands and listed 275 species of vascular plants as occurring on these islands (Willis, 1953).

Since this expedition Goodsell *et al.*

(1976) recollected on Woody Island during the spring of 1975. Abbott and Black (1978) collected on Mondrain, Woody, Salisbury and Wilson Island. Hopkins (pers. comm.) has studied Salisbury Island. Brown *et al.* (1984) have undertaken extensive pre and post fire studies on Middle Island (and collected on Goose Island).

These published and unpublished studies have now recorded 378 species (235 on Middle Island alone!) of vascular plants from the Archipelago, of which 61 are naturalized aliens. Surveys have been undertaken on 21 islands.

## THE 1991 EXPEDITION

The expedition was able to land on 13 islands to study the flora. Of these, New Year, Anvil, Spindle, Six Mile Rock, Bellinger, Wickham and Taylor Island had not previously been studied.

Landings were also made by Daw, Middle, North Twin Peak,

Mondrain, Sandy, Hook and Wilson Island (where numerous new records were noted) are given in Appendix One.

## RESULTS

The author recorded six species (*Chamaescilla corymbosa*, *Wilsonia backhousei*, *Wilsonia humilis*, *Calandrinia corrigioloides*, \**Corrigiola littoralis* and \**Monadenia bracteata*) not previously listed for the Archipelago. This raises the known vascular flora to 384 species.

The *Wilsonia backhousei*/*W. humilis* vegetation association found on Bellinger Island has not previously been recorded on any other island in the Archipelago.

Wilson Island was previously studied by Abbott and Black (1978) who recorded 40 species of vascular plants. We recorded 63 species from the island, a 57% increase. It would appear, from a number of unidentifiable fragments, that a spring survey would result in further new records.

The expedition recorded an additional 9 species (*Stipa flavescens*, *Parietaria debilis*, \**Stellaria media*, \**Euphorbia paralias*, *Lavatera plebeia*, *Melaleuca pubescens*, *Solanum simile*, *Gnaphalium indutum* and *Gnaphalium sphaericum*) on Daw Island, compared to those listed by Willis (1953), raising the known flora to 55 species. One species *Spinifex hirsutus* was not relocated; it has apparently become extinct on Daw Island since 1950.

Two new records (*Eriochilus dilatatus* and \**Euphorbia paralias*) were made for Mondrain Island.

Twelve new species (*Isopogon*

*tridens*, *Petrophile teretifolia*, *Atriplex cinerea*, *Disphyma clavellatum*, *Lepidium foliosum*, *Drosera glanduligera*, *Acacia nigricans*, \**Euphorbia paralias*, *Lavatera plebeia*, *Melaleuca lanceolata*, *Daucus glochidiatus*, \**Pseudognaphalium luteo-album*) were recorded for Sandy Hook Island, raising the number of species recorded for the island to 112.

One other interesting observation was that Willis found the littoral alien, *Euphorbia paralias* (Sea Spurge) only on Middle Island, whereas 40 years later all ? islands with beaches throughout the Archipelago have this species on them.

## ACKNOWLEDGEMENTS

The author is grateful to Australian Geographic especially Valerie Reed for organizing the expedition. The McKenzie family of Esperance who supplied the boat, crew, expertise, good company, local knowledge and fish. Other members of the expedition for company, assistance, and B.P. for the fuel.

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## APPENDIX ONE

1. New Year Island (33°51'18"S 124°07'E) visited 6.5.1991.

The northern end of the island has a prostrate or very low heath of *Atriplex cinerea* (60% cover), *Disphyma* (25%) and *Frankenia* (10%). The central summit area has a low open heath (to 40cm) of *Olearia axillaris*, *Rhagodia*, *Threlkeldia* and *Myoporum*. On the protected south-eastern side of the island where sand has accumulated there is a thicket of *Nitraria billardierei* over *Threlkeldia*.

### Flora

*Poa porphyroclados*  
*Sporobolus virginicus*  
*Atriplex cinerea*  
*A. paludosa*  
*Enchylaena tomentosa*  
*Rhagodia baccata*  
*Sarcocornia quinqueflora*  
*Threlkeldia diffusa*  
*Carpobrotus virescens*  
*Disphyma clavellatum*  
*Tetragonia implexicoma*  
*Calandrinia calyptata*  
*Lepidium foliosum*  
*Lavatera plebeia*  
*Frankenia tetrapetala*  
*Apium annuum*  
*Nitraria billardierei*  
*Myoporum insulare*  
*Lobelia alata*  
*Calocephalus brownii*  
*Olearia axillaris*  
*Senecio lautus*

\* *Sonchus oleraceus*  
23 species

2. Spindle Island (33°44' 124°10') visited 7.5.1991.

### Flora

*Sporobolus virginicus*  
*Lavatera plebeia*  
*Apium annuum*  
*Lobelia alata*

3. Six Mile Rock (33°38'30"S 123°59') visited 7.5.1991.

### Flora

*Sporobolus virginicus*  
*Disphyma clavellatum*  
*Lepidium foliosum*  
*Lavatera plebeia*  
*Lobelia alata*

4. Anvil Island (33°44' 124°05') visited 7.5.1991.

This island consists of two low hills separated by a low valley with a beach on each side. Between the beaches a low closed *Nitraria* heath occurs, edged on one side by a low open heath of *Atriplex* to 15 cm, with rare *Olearia axillaris*, *Carpobrotus* and *Poa*. The granitic slopes and summit have a low open heath of *Olearia/Atriplex* and *Myoporum* over *Disphyma*. The edges of open granite areas have a herbfield of *Sporobolus*, *Disphyma* and *Carpobrotus*.

### Flora

*Danthonia caespitosa*  
*Sporobolus virginicus*  
*Stipa flavescens*  
\* *Ehrharta longiflora*  
*Isolepis nodosa*  
*Atriplex cinerea*  
*Enchylaena tomentosa*  
*Rhagodia baccata*  
*Threlkeldia diffusa*  
*Carpobrotus virescens*  
*Disphyma clavellatum*  
*Lepidium foliosum*  
*Pelargonium australe*  
*Nitraria billardierei*  
*Lavatera plebeia*  
*Frankenia tetrapetala*  
*Apium annuum*



*A. prostratum*  
*Trachymene pilosa*  
 \* *Anagallis arvensis*  
*Myoporum insulare*  
*Lobelia alata*  
*Calocephalus brownii*  
*Gnaphalium indutum*  
*Olearia axillaris*  
 \* *Pseudognaphalium luteo-album*  
*Senecio lautus*

27 Species

5. Bellinger Island (33°52'54" 123°38'48")  
visited 8.5.1991.

The island has two distinct parts separated by a shallow channel. The northern rocky area is sparsely vegetated in its highest portion by a succulent herbfield of *Disphyma* with scattered plants of *Lobelia*, *Lavatera*, *Sporobolus* and *Atriplex cinerea*. The sheltered cliffs are covered in a succulent herbfield of *Wilsonia backhousei* and *Wilsonia humilis*. The southern area has tall sand dunes dominated by a low open heath with mixtures of *Nitraria*, *Atriplex cinerea* and *Tetragonia*. *Acacia cyclops* becomes dominant near the beach.

Flora

\* *Ehrharta longiflora*  
 \* *Parapholis incurva*  
*Poa poiformis*  
*Spinifex hirsutus*  
*Sporobolus virginicus*  
*Stipa flavescens*  
*Isolepis nodosa*  
*Lepidosperma gladiatum*  
*Dianella revoluta*  
*Atriplex cinerea*  
*A. paludosa*  
*Enchylaena tomentosa*  
*Rhagodia baccata*  
*Threlkeldia diffusa*  
*Carpobrotus virescens*  
*Disphyma clavellatum*  
*Tetragonia implexicoma*  
*Lepidium foliosum*  
*Crassula colorata*  
*Acacia cyclops*  
*Nitraria billardierei*  
*Zygophyllum billardierei*  
 \* *Euphorbia paralias*  
*Lavatera plebeia*  
*Pimelea ferruginea*

*Frankenia tetrapetala*  
*Apium annuum*  
*Daucus glochidiatus*  
*Trachymene pilosa*  
 \* *Anagallis arvensis*  
*Myoporum insulare*  
*Lobelia alata*  
*Wilsonia humilis*  
*W. backhousei*  
*Calocephalus brownii*  
*Olearia axillaris*  
*Senecio lautus*  
 \* *Sonchus oleraceus*

38 Species

6. Wickham Island (34°01' 123°17'30")  
visited 8.5.1991.

A low island covered by variable low open heath up to 50 cm, dominated by *Nitraria*, *Atriplex cinerea* or *Olearia*. Scattered through the heath are granite pools which support an annual herbfield.

Flora

*Triglochin minutissima*  
*T. trichophora*  
 \* *Aira caryophylla*  
 \* *Avena barbata*  
 \* *Ehrharta longiflora*  
*Sporobolus virginicus*  
*Spinifex hirsutus*  
*Stipa flavescens*  
*Isolepis nodosa*  
*I. marginata*  
*Centrolepis polygyna*  
*Juncus bufonius*  
*Bulbine semibarbata*  
*Atriplex cinerea*  
*A. paludosa*  
*Enchylaena tomentosa*  
*Rhagodia baccata*  
*Threlkeldia diffusa*  
*Carpobrotus virescens*  
*Disphyma clavellatum*  
*Tetragonia implexicoma*  
*Calandrinia corrigioloides*  
 \* *Corrigiola littoralis*  
 \* *Cakile maritima*  
*Lepidium foliosum*  
*Crassula colorata*  
*Nitraria billardierei*  
 \* *Euphorbia paralias*  
*Lavatera plebeia*  
*Frankenia tetrapetala*

*Apium annuum*  
*Daucus glochidiatus*  
*Trachymene pilosa*  
 \* *Solanum nigrum*  
*Plantago drummondii*  
*Lobelia alata*  
*Myoporum insulare*  
*Anthocercis viscosa*  
*Calocephalus brownii*  
*Cotula coituloides*  
*Gnaphalium sphaericum*  
*Olearia axillaris*  
 \* *Pseudognaphalium luteo-album*  
*Senecio lautus*  
 \* *Sonchus oleraceus*  
 \* *Vellereophyton candidissimum*  
 46 Species

7. Taylor Island (33°56' 122°52') visited 9.5.1991.

A steep single summit island, covered by either a low open heath dominated by *Olearia* with scattered *Rhagodia*, *Poa*, *Muehlenbeckia* and *Carpobrotus* or a *Poa/Stipa* tussock grassland with scattered shrubs of *Carpobrotus* and *Muehlenbeckia*. Open areas of granite are dominated by *Lomandra rigida* or *Carpobrotus*. Valleys contain a low shrubland of *Paraserianthes lophantha*.

Flora

\* *Aira caryophyllea*  
 \* *Bromus diandrus*  
 \* *Avena barbata*  
*Poa poiformis*  
 \* *Ehrharta longiflora*  
*Sporobolus virginicus*  
*Stipa flavescens*  
*Isolepis nodosa*  
*Corynotheca micrantha*  
*Dianella revoluta*  
*Lomandra rigida*  
*Muehlenbeckia adpressa*  
 \* *Monadenia bracteata*  
*Enchylaena tomentosa*  
*Rhagodia baccata*  
*Threlkeldia diffusa*  
*Carpobrotus virescens*  
*Disphyma clavellatum*  
*Tetragonia implexicoma*  
*Lepidium foliosum*  
*Apium annuum*  
*Crassula exserta*

*Paraserianthes lophantha*  
*Pelargonium australe*  
*Phyllanthus scaber*  
*Lavatera plebeia*  
*Gonocarpus scordioides*  
*Apium annuum*  
*Leucopogon revolutus*  
 \* *Anagallis arvensis*  
*Myoporum insulare*  
*Lobelia alata*  
*Gnaphalium indutum*  
*G. sphaericum*  
 \* *Hypochaeris glabra*  
*Olearia axillaris*  
 \* *Pseudognaphalium luteo-album*  
*Senecio lautus*  
 \* *Sonchus oleraceus*  
 39 Species

8. Wilson Island visited 12.5.1991.

Flora

*Cheilanthes austrotenuifolia*  
 \* *Aira caryophyllea*  
*Bromus diandrus*  
*Sporobolus virginicus*  
*Stipa flavescens*  
*Poa porphyroclados*  
 \* *Vulpia bromoides*  
*Isolepis cernua*  
*I. nodosa*  
*Centrolepis polygyna*  
*C. strigosa*  
*Bulbine semibarbata*  
*Lomandra rigida*  
*Chamaescilla ?corymbosa*  
*Eriochilus dilatatus*  
*Hakea clavata*  
*H. suaveolens*  
*Muehlenbeckia adpressa*  
*Atriplex paludosa*  
*Rhagodia crassifolia*  
*Enchylaena tomentosa*  
*Threlkeldia diffusa*  
*Carpobrotus virescens*  
*Disphyma clavellatum*  
*Tetragonia implexicoma*  
*T. tetragonoides*  
*Lepidium foliosum*  
*Bossiaea dentata*  
*Eutaxia obovata*  
*Geranium pilosum*  
*Pelargonium australe*  
*Dodonaea oblongifolia*

*Phyllanthus scaber*  
*Beyeria viscosa*  
*Crassula colorata*  
*Stackhousia pubescens*  
*Rulingia cygnorum*  
*Pimelea clavata*  
*Eucalyptus cornuta*  
*Agonis marginata*  
*Leptospermum sericeum*  
*Melaleuca globifera*  
*Haloragis acutangula*  
*Astartea fascicularis*  
*Apium annuum*  
*Trachymene pilosa*  
*Daucus glochidiatus*  
*Platysace compressa*

*Andersonia sprengelioides*  
*Leucopogon obovatus*  
*Centaurium erythraea*  
\* *Solanum nigrum*  
*Myoporum insulare*  
*Levenhookia pusilla*  
*Stylidium adnatum*  
*Anagallis arvensis*  
*Calocephalus brownii*  
*Angianthus tenellus*  
*Gnaphalium indutum*  
*Cotula australis*  
\* *Hypochaeris glabra*  
*Olearia axillaris*  
*Senecio lautus*  
63 Species